KX400.1 / KX600.1 / KX1200.1

Congratulations! You have just purchased the latest in amplifier technology to carry the famous KICKER name. Your KICKER KX series amplifier is designed and built to give you years of powerful and trouble-free performance. This installation manual contains valuable information on how to get the most out of your new KX series amplifier. Thanks for buying KICKER. Enjoy!

KX Amplifier Features

NEW for 2002 Radically advanced chassis with removable chassis shroud.

Class D Mono Amplifier Delivers Massive power into a single channel *without* big current draw.

Low Impedance Operation Stable into 2 ohm (KX400.1,KX600.1) or 1 ohm (KX1200.1).

SORT Protection Circuitry (**S**hort circuit, **O**ver-voltage, **R**everse polarity, **T**hermal) Protects amplifier from accidents and undesired operation.

MOSFET Power Supply Provides high efficiency operation.

KickBass Variable bass boost circuit which provides up to 18 dB of boost at 40 Hz.

Full-time Variable Crossover 12dB lowpass variable from 50-200Hz.

Subsonic Filter Defeatable 12dB at 25 Hz.

High & Low level inputs Allows connection to various sources such as: aftermarket stereo, factory radio, DVD Player, Video Cassette Player, etc..

PAST (**P**re **A**mp **S**ignal **T**ransfer) Output RCA jacks to pass the incoming signal to another amplifier or component.

Custom tooled gold plated connectors Assure maximum power transfer and damping.

Strapping Jacks Allows two amplifiers to be joined to produce **D**ouble **P**ower.

Remote Bass Level Control Dash mounted for maximum control.

Three Year Warranty When *purchased from and installed by* Authorized KICKER dealer.

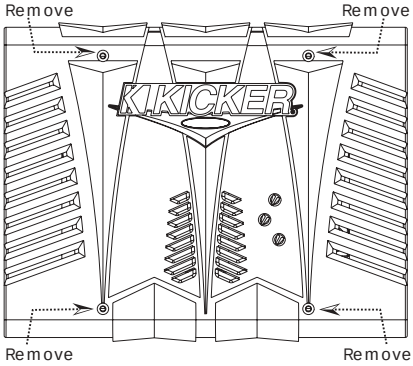
Mounting Instructions

When selecting a location to mount your Kicker amplifier be sure it is structurally sound and that there are no items behind the area that could be damaged by the screws. Check for wiring harnesses, brake lines, fuel lines, gas tanks, etc.

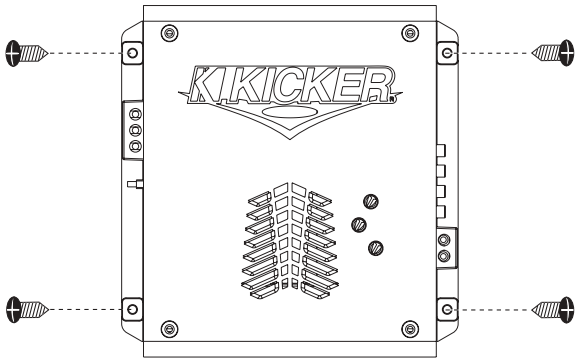
All amplifiers generate heat under normal operation. Be sure to choose a location that allows adequate ventilation for the amplifier. Also consider that the air temperature inside an automobile's trunk can reach upwards of 140 degrees fahrenheit. An amplifier mounted here may require additional cooling needs such as fans or venting to allow cool operation. If possible, mounting the amp in the passenger compartment will allow cooler operation.

Remember that the controls on top of the amp will need to be accessible for adjustment later. Keep this in mind as you choose your amplifiers mounting location.

Now that you are ready to mount your amplifier, use the supplied 3mm allen wrench to remove the amplifier shroud. This will give you access to the mounting holes in the amplifier and all wiring connections.

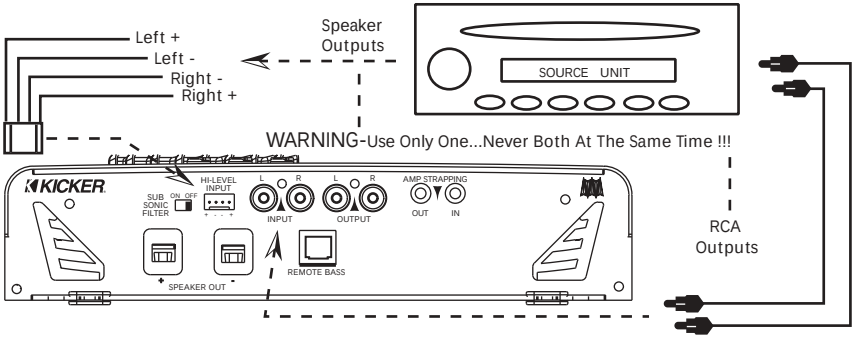


With the shroud removed, you now have access to the four mounting holes in the mounting feet and all wiring connections. Drill 4 holes using a 7/64" drill bit and use the supplied #8 screws to mount the amplifier.



Wiring Instructions

Signal can be input into the amplifier using either the low level RCA input connections or the high level speaker level connections. Using the low level RCA connections is the preferred method. Use the high level inputs only if your head unit does not have low level RCA type outputs. Connecting to the amp with either input will provide a low level signal at the output (**PAST**) jacks.



The use of twisted pair interconnects is recommended for all installations to minimize noise. When routing these cables through the automobile, try to keep them away from factory wiring harnesses and other power wiring. If you need to cross any of this wiring do so at a 90 degree angle to reduce the possibility for noise problems.

When working with power connections it is always recommended that you disconnect the battery to prevent accidents.

The ground should be connected to the amplifier first before making any of the other connections. This wire should be as short as possible (24 inches or less) and connected to a paint/corrosion free solid metal area of the car's chassis. Use the same gauge wire as recommended for the amplifiers power connection to the battery. Adding an additional ground wire between the car battery's negative post and the car chassis of this same gauge (or larger) is also recommended.

If you ever need to remove the amp from the vehicle after it has been installed, the ground wire should be the last wire disconnected from the amplifier. Just the opposite as when you installed it.

A fuse must be installed within 18 inches of the battery to protect the power wire feeding your amplifier. This fuse should be of at least the same value used in the amplifier but no higher than the capacity of the wire. See the chart below for wire size and fusing recommendations.

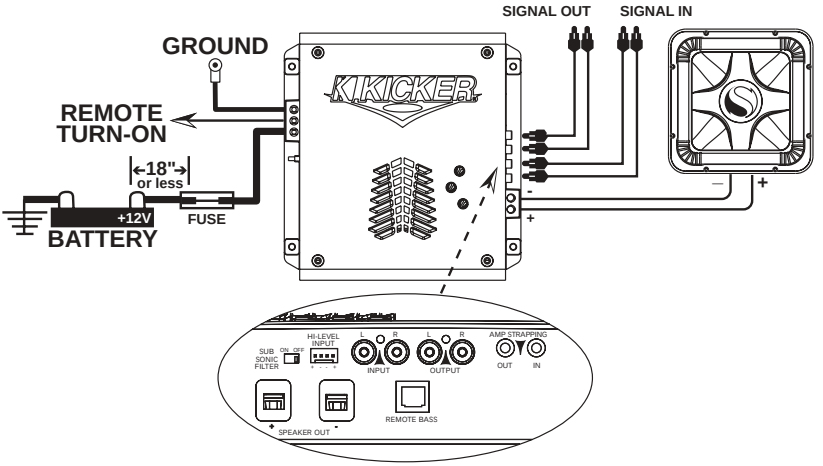
Model	Fuse Size	Wire Size
KX-400.1	40A	4 GA
KX-600.1	60A	4 GA
KX-1200.1	150A	1/0 GA

System Diagrams

The following diagrams show the most common configurations for your Kicker KX.1 series amplifier.

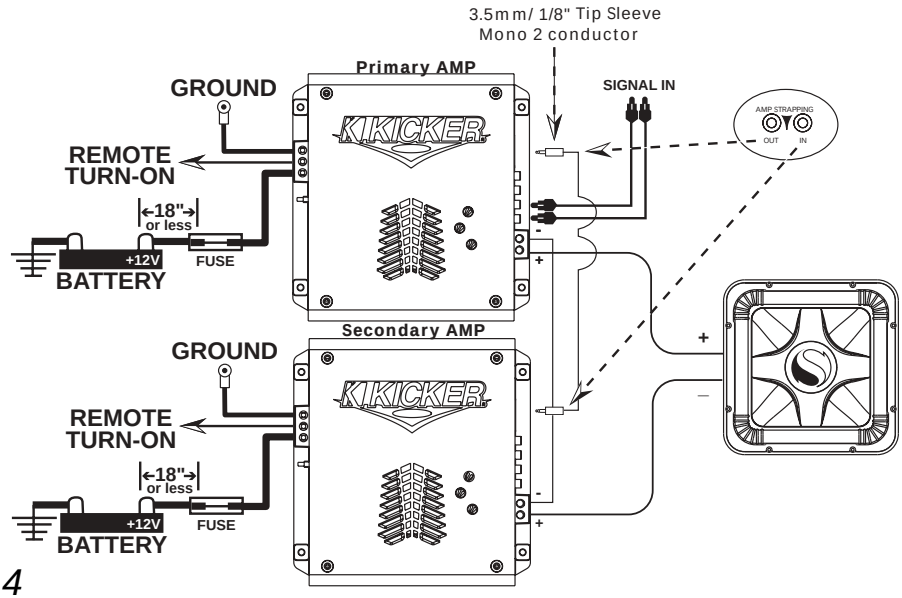
ONE CHANNEL OPERATION

KX series amplifiers are capable of operating into a minimum impedance of 2 ohm for the KX400.1, KX600.1 and 1 ohm for the KX1200.1.



Strapping **Two KX.1 Amps(Double Power)**

By using a Mono plug (available at Radio Shack) you can run two KX .1 amplifiers into one woofer. Minimum impedance 4 ohm for KX400.1, KX600.1 and 2 ohm for the KX1200.1. When strapped the Secondary amplifier controls are bypassed. See Tech. Brief for more info. on this configuration.



USING THE SIGNAL OUTPUT JACKS (PAST)

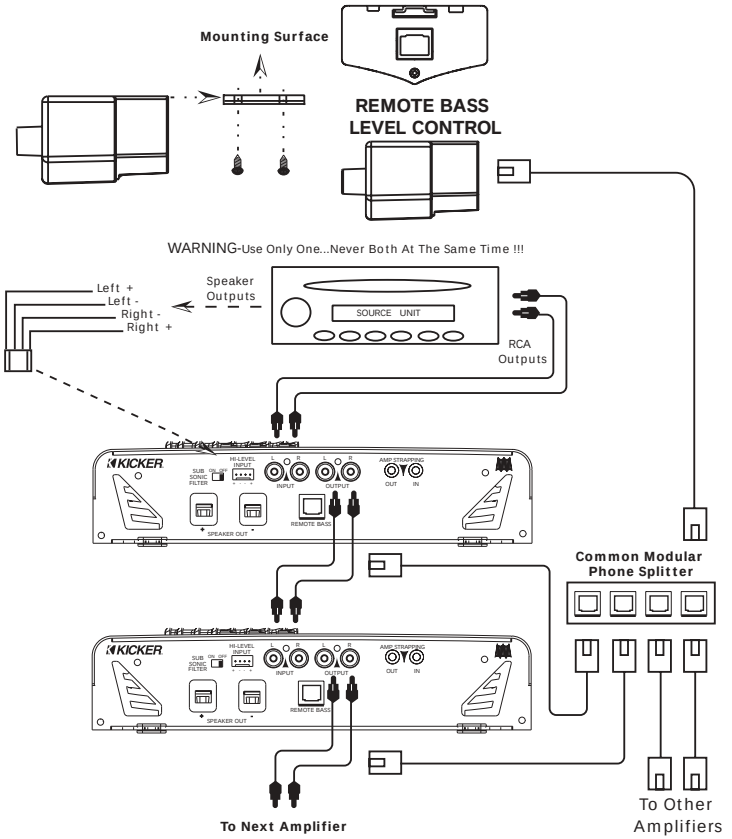
The Output (**P**re **A**mp **S**ignal **T**ransfer) RCA jacks allow you to send the incoming signal from one Kicker KX series amplifier to another amplifier or processor without the need for Y cables. The signal from the **PAST** jacks is identical to the signal fed to the amplifier via its RCA input jacks or the High Level inputs and is not affected by the amplifier's built in crossover.

Most head units with high voltage outputs should be capable of driving up to ten amplifiers in a chain.

Remote Bass Level Control

When using the Remote Bass Level Control you have the ability to control the level of the subs from the driver's seat. To mount the controller simply screw the metal bracket to the chosen location, then slide the housing onto the bracket until it snaps into place. Run the cable from the controller to the appropriate jack on the amplifier chassis.

When using more than one KX.1 amplifiers you have the ability to control all of them from one Remote Bass Level Control. The adapter is a common Modular phone splitter found at Radio Shack and is installed between the controller and the amplifier.



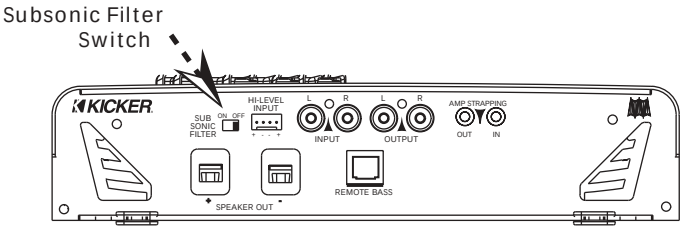
Adjusting Amplifier Controls

On your Kicker amplifier there are three rotary controls on top and one switch on the end panel. These controls ensure the reliability and performance of the amplifier, so they need to be set correctly.

SUBSONIC FILTER SWITCH

NEVER CHANGE THE SUBSONIC FILTER SWITCH SETTING WITH THE SYSTEM ON!

The switch located on the end panel next to the RCA jacks is for the subsonic filter. It is 12db/octave set at 25 Hz. All KX.1 amplifiers come with a full-time variable lowpass crossover selectable from 50 Hz - 200 Hz.



BEFORE TURNING ON THE SYSTEM FOR THE FIRST TIME, MAKE SURE THAT THE THREE ROTARY CONTROLS ON TOP OF THE AMPLIFIER ARE TURNED FULLY COUNTER-CLOCKWISE!

GAIN CONTROL

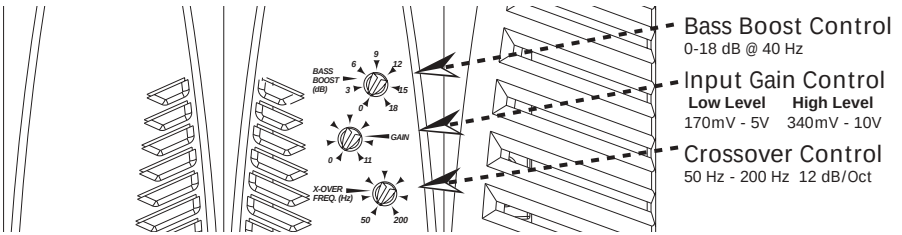
Remember, the gain control is not a volume control, it matches the output of the head unit to the input level of the amplifier and must be adjusted properly for best performance. All the way up or down is not necessarily the best. Turn the head unit up to about 3/4 volume. (eg. If the head unit goes to 30, turn it to 25.) Next, turn (clockwise) the gain on the amplifier up slowly until you can hear audible distortion, then turn it down just a little.

Crossover Control

Where you set the crossover is very subjective and can be fine tuned to match your listening preference or speaker requirements.

Bass Boost

The BASS BOOST control is designed to give you increased output at 40 Hz. The setting for this control is subjective, however, if you turn it up, you must go back and adjust the gain control to avoid clipping the amplifier.



Troubleshooting

If your amplifier does not appear to be working, check obvious things first such as blown fuses, poor or incorrect wiring connections, crossover switch set properly, gain controls properly set, etc.

There are two LEDs on the end panel of your Kicker KX series amplifier, one green and one red. When the green LED is lit this indicates the amplifier is turned on and no trouble exists. If the green LED turns off and the red LED is lit this indicates that the protection circuitry (**SORT**) is engaged.

The power indicator on top of the amplifier which illuminates the model badge follows the same function as the green LED.

❍ Green LED off, no output:

With a Volt Ohm Meter (VOM) check:

⇨+12 volt power terminal (should read +12V to +16V).

⇨Remote turn-on terminal (should read +12V to +16V).

⇨Ground terminal.

❍ Green LED on, no output:

⇨Check RCA connections.

⇨Test speaker outputs with known good speaker.

⇨Substitute known good source unit.

⇨Check for signal on RCA cable with VOM meter in AC position.

❍ Red LED on, no output:

1.) Amp is very hot.

⇨Thermal protection is engaged. Check for proper impedance at speaker terminals. Also check for adequate airflow around amplifier.

2.) Amp shuts down only while vehicle is running.

⇨Voltage protection is engaged. Voltage to the amplifier is not within the 9-16 volt operating range. Have automobile charging/electrical system inspected.

3.) Amp will only play at low volume levels.

⇨Short circuit protection is engaged. Check for speaker wires shorted to each other or the vehicle chassis. Damaged speakers or operating below minimum impedance will also cause this.

❍ Low Power Output

⇨Swap speaker connections from positive to negative.

If bass improves, the speaker was out of phase.

❍ Alternator noise (whining sound that varies with engine RPM):
- ⇨Check for damaged RCA cable.
- ⇨Check routing of RCA cable.
- ⇨Check source unit for good ground.
- ⇨Check gain setting, turn down if set too high.

CAUTION: When jump starting the vehicle, be sure that connections made with jumper cables are correct. Improper connections can result in blown amplifier fuses as well as failure in other systems in the vehicle.

If you have more questions about the installation and operation of your new KICKER amplifier, see the Authorized KICKER Dealer in your area. You may also call our Technical Services Line at (405)624-8583 for assistance or visit our website at www.KICKER.com.

Specifications

Model	KX400.1	KX600.1	KX1200.1
RMS Power In Watts			
@ 13.8V, 2Ω Mono, 1.5% THD	400 X 1	600 X 1	
@ 13.8V, 1Ω Mono, 1.5% THD	n/a	n/a	1200 x 1
Dynamic Power In Watts			
@ 14.4V, 2Ω Mono	420 x 1	690 x 1	
@ 14.4V, 1Ω Mono	n/a	n/a	1350 x 1
Length with Shroud	12.75" (32.38cm)	16" (40.64cm)	22.5" (57.15cm)

Specifications common to all models

Height:	2.5 inches / 6.35 centimeters
Width:	10.125 inches / 25.7 centimeters
Length without **S**hroud:	Subtract 5" / 12.7cm from chart above
Frequency **R**esponse:	20 Hz - 200Hz, +0, -1 dB
Input **S**ensitivity:	170 mV - 5 V low level, 340 mV - 10 V high level
Signa**l**-to-**N**oise **Ra**tio:	>95 dB, a-weighted, re: rated power
Electronic Crossover:	Variable high or low pass, 50 - 200 Hz, 12 dB/octave
Kick**Ba**ss **B**oost:	Variable 0 to +18 dB boost @ 40 Hz

NOTES

ELECTRONICS LIMITED WARRANTY

Stillwater Designs warrants this product to be free from defects in material and workmanship under normal use for a period of **three (3) years from date of original purchase when purchased from and installed by an Authorized KICKER Dealer or one (1) year from date of original purchase if purchased from and not installed by an Authorized KICKER Dealer**. If this product is labeled "B Stock", it is warranted for one (1) year from date of purchase, regardless of place of installation. Should service be necessary under this warranty for any reason due to manufacturing defect or malfunction during the warranty period, Stillwater Designs will replace or repair (at its discretion) the defective merchandise with equivalent merchandise at no charge. Warranty replacements on "B-Stock" merchandise may have cosmetic scratches and blemishes. Discontinued products may be replaced with equivalent products.

This warranty is valid only for the **original purchaser** and is not extended to owners of the product subsequent to the original purchaser. Any applicable implied warranties are limited in duration to a period of the express warranty as provided herein beginning with the date of the original purchase at retail, and no warranties, whether express or implied, shall apply to this product thereafter. Some states do not allow limitations on implied warranties, therefore these exclusions may not apply to you.

This warranty gives you specific legal rights; however you may have other rights that vary from state to state.

WHAT TO DO IF YOU NEED WARRANTY OR SERVICE

Defective merchandise must be returned to your local Authorized Stillwater Designs (Kicker) Dealer for warranty. Assistance in locating an Authorized Dealer can be obtained by writing or calling Stillwater Designs direct. You can confirm that a dealer is authorized by asking to see a current authorized dealer window decal.

If it becomes necessary for you to return defective merchandise, call the Kicker Customer Service Department at (405)624-8510 for a Return Authorization (RA) number. Package all defective items in the original container or in a package that will prevent shipping damage, and return to

Stillwater Designs, 5021 North Perkins Road, Stillwater, OK 74075

The RA number must be clearly marked on the outside of the package. Return only defective components. Non-defective items received will be returned freight collect.

Include a **dated proof-of-purchase** from an Authorized Dealer. Warranty expiration on items returned without proof-of-purchase will be determined from the manufacturing date code. Coverage may be invalidated if this date is greater than 18 months previous to the date item is sent in. Freight must be prepaid; items received freight collect will be refused.

Failure to follow these steps may void your warranty. Any questions can be directed to the Kicker Customer Service Department at (405)624-8510.

WHAT IS NOT COVERED?

This warranty is valid only if the product is used for the purpose for which it was designed. It does not cover:

- Products purchased from an unauthorized dealer.
- Damage due to improper installation
- Damage caused by exposure to water, excessive heat, chemical cleaners, and/or UV radiation.
- Damage through negligence, misuse, accident or abuse. Repeated returns for the same damage may be considered abuse.
- Freight damage.
- The cost of shipping product to Stillwater Designs.
- Items previously repaired or modified by any unauthorized repair facility.
- Items returned from unauthorized individuals or dealers.
- Return shipping on non-defective items.
- Products with tampered or missing barcode labels.
- Products returned without a Return Authorization (RA) number.

HOW LONG WILL IT TAKE?

Stillwater Designs maintains a goal of 24-hour service for all returns. Delays may be incurred if lack of replacement inventory or parts is encountered.

INTERNATIONAL WARRANTY

Contact your International Stillwater Designs dealer or distributor concerning specific procedures for your country's warranty policies.

CE

STILLWATER Designs®

P.O. Box 459 • Stillwater, Oklahoma 74076 • U.S.A. • 405 624-8510

WARNING: KICKER drivers are capable of producing sound levels that can permanently damage your hearing! Turning up a system to a level that has audible distortion is more damaging to your ears than listening to an undistorted system at the same volume level. The threshold of pain is always an indicator that the sound level is too loud and may permanently damage your hearing. **Please use common sense when controlling volume!**

March 2002

KICKER
Livin' Loud